

Patent Claims

1. A method for determining and controlling the material flow of continuous-cast slabs, in particular steel slabs, by monitoring and optimizing the temperature on their transport path between the continuous-casting installation and the rolling mill, wherein, to determine the amount of heat and the temperature profile of the slab, starting from the known temperature of the liquid phase at the mold exit of the continuous-casting installation and given knowledge of the physical parameters of the slab, the convective mixing of the amount of heat contained in the slab and the time-dependent heat loss from the inhomogeneously cooling slab to the surrounding medium are calculated by means of a mathematical-physical model, and the result of the calculation, if appropriate together with the measured surface temperature of the slab, is used to control the material flow in an existing slab-monitoring system.

2. The method for determining and controlling the material flow of continuous-cast slabs as claimed in claim 1, wherein the two-dimensional finite element method, the finite difference method or software using formulae derived from off-line studies are used to calculate the mathematical-physical model.

3. The method for determining and controlling the material flow of continuous-cast slabs as claimed in claims 1

4. The method for determining and controlling the material flow of continuous-cast slabs as claimed in claims 1 to 3, wherein the result of the calculation and the measured surface temperature of the slab are linked to automation of the material flow in the slab-monitoring system.

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